

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : NISSAN MOTOR CO LTD

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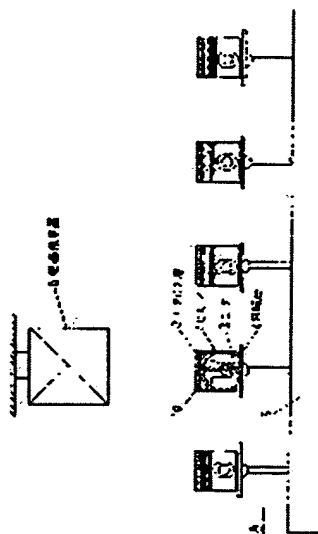
(54) NONDESTRUCTIVE INSPECTING METHOD FOR COATING LAYER

(57)Abstract:

PURPOSE: To compare the internal state of a coating layer by heating or cooling one member of a base material which has the coating layer and generating a temperature distribution, and comparing the temperature distribution with a reference temperature distribution.

CONSTITUTION: A piston 1 which has the coating layer 2 on its crown surface 1a is installed on a turntable 4 with the crown surface 1a up so that the center of the internal surface of the crown surface 1a contacts the upper end part of a heater 3. Then turntables 4 are arrayed on plural pedestals 5 in the moving direction so that they advance as shown an arrow A, a heat image device 6 is provided above the stop positions of the turntables 4, and the temperature distributions formed on

the coating layers 2 by heaters 3 are measured in order. The heat image device 6 inputs infrared rays emitted by the coating layers 2 and outputs an electric signal. At the same time, an infrared ray from a reference temperature source is inputted and both electric signal are compared with measure the temperature distributions of the coating layers 2, whose internal states are evaluated.



LEGAL STATUS

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コーティング層が示す基準の温度分布と比較することによってコーティング層の内部状態を評価するようにしたので、非破壊且つ非接触でコーティング層を検査することができ気孔はもちろん、内部の剥離や組成むら等をも容易に短時間で正確に知ることができる。

4. 図面の簡単な説明

第1図はこの発明の一実施例を示す説明図。

第2図乃至第4図はこの発明により得られたピストンのコーティング層の温度分布を例示する熱画像図。

第5図はこの発明の他の実施例を示す説明図。

第6図は従来のコーティング層の非破壊検査方法を示す説明図である。

- 1…ピストン 2…コーティング層
3…ヒータ 4…回転台 6…熱画像装置
7…オイル容器 8…熱電線

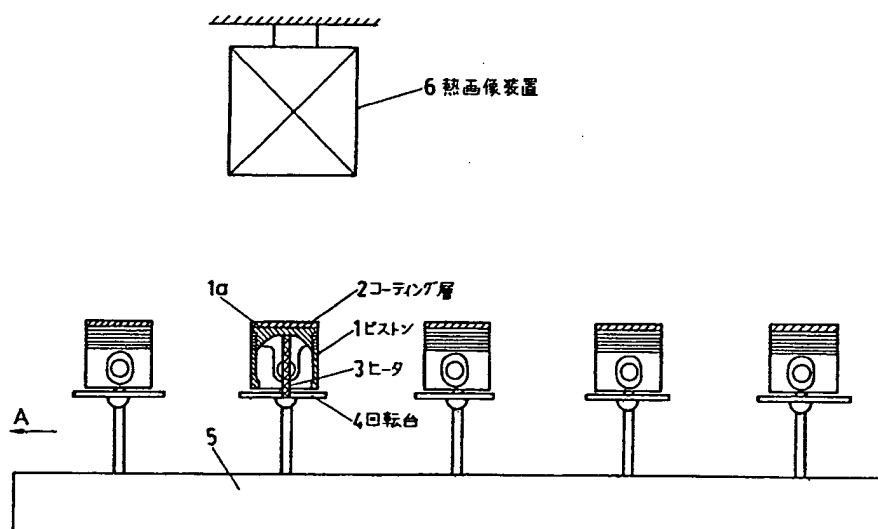
出願人 日産自動車株式会社

代理人 井理士大澤

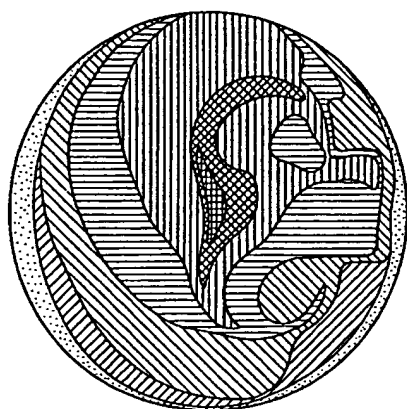


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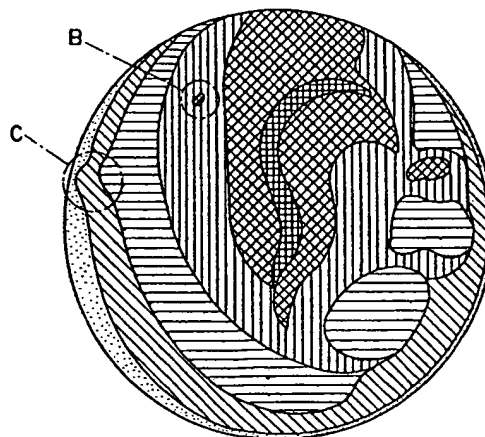
第 1 図



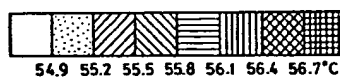
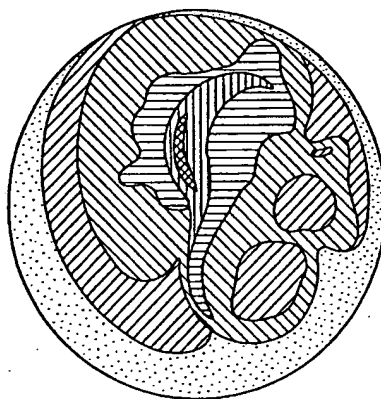
第 2 図



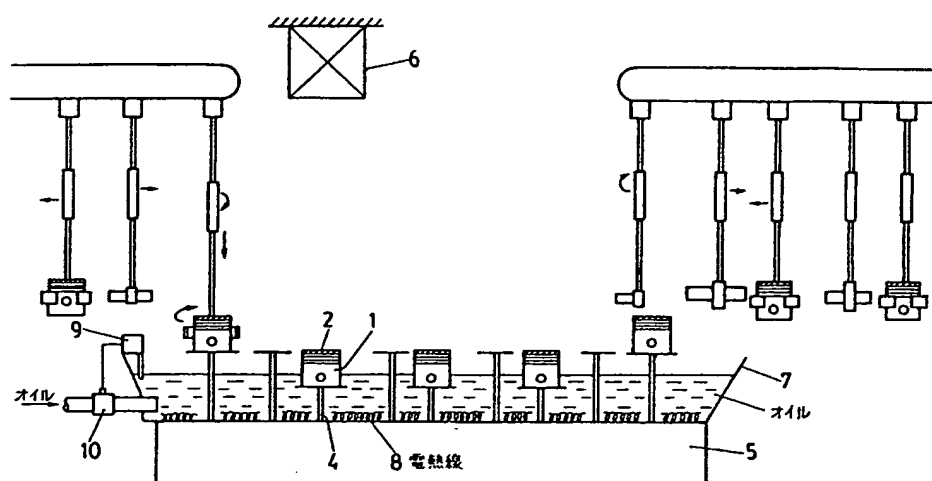
第 3 図



第 4 図



第 5 図



第 6 図

